

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 09/778,963B

Source: 1600

Date Processed by STIC: 12/15/04

# ***ENTERED***



1600

## RAW SEQUENCE LISTING

DATE: 12/15/2004

PATENT APPLICATION: US/09/778,963B

TIME: 16:04:09

Input Set : A:\2ND\_SUBST\_SEQLIST\_NOV04.TXT

Output Set: N:\CRF4\12152004\I778963B.raw

4 <110> APPLICANT: NEELAM, Beena et al  
 6 <120> TITLE OF INVENTION: ISOLATED HUMAN RAS-LIKE PROTEINS,  
 7 NUCLEIC ACID MOLECULES ENCODING THESE HUMAN RAS-LIKE  
 8 PROTEINS, AND USES THEREOF  
 10 <130> FILE REFERENCE: CL001112  
 12 <140> CURRENT APPLICATION NUMBER: 09/778,963B  
 13 <141> CURRENT FILING DATE: 2001-02-08  
 15 <160> NUMBER OF SEQ ID NOS: 9  
 17 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 19 <210> SEQ ID NO: 1  
 20 <211> LENGTH: 3082  
 21 <212> TYPE: DNA  
 22 <213> ORGANISM: Homo sapiens  
 24 <400> SEQUENCE: 1

P.6

```

25 ggcgtcgccg cgcgggggaga aagaagccgc gccagcccg gcgtcccgag cagcgcaggg 60
26 gaggatcccc gcgcagtac ccgggagcca ccacagactc tgggaggctc ggcggtcggg 120
27 gcagcaggca gctccccgca gctcccgccg cttccaggca gctctctgag ccgtgccaga 180
28 ggccccggccc gccattccca gccccgagcc atgatgaaga ctttgtccag cgggaactgc 240
29 acgctcagtg tgcccgccaa aaactcatac cgcattggtg tgctgggtgc ctctcgggtg 300
30 ggcaagagct ccactcgtgc tcgcttcctc aatggccgct ttgaggacca gtacacaccc 360
31 accatcgagg acttccaccg taaggtatac aacatccgcg gcgacatgta ccagctcgac 420
32 atcctggata cctctggcaa ccacccttc cccgccatgc gcaggctgtc catcctcaca 480
33 ggggatgtct tcactcgtgt gtccagcctg gataaccggg agtccttcga tgaggccaag 540
34 cgccttcaga agcagatcct ggaggccaag tcctgcctga agaacaagac caaggaggcg 600
35 gcggagctgc ccattggtcat ctgtggcaac aagaacgacc acggcgagct gtgccgccag 660
36 gtgcccacca ccgaggccga gctgctggtg tcgggcgacg agaactccgc ctacttcgag 720
37 gtgtcggcca agaagaacac caacgtggac gagatgttct acgtgctctt cagcatggcc 780
38 aagctgccac acgagatgag ccccgccctg catcgcaaga tctccgtgca gtacgggtgac 840
39 gccttcacac ccaggccctt ctgcatgcgc cgcgtcaagg agatggacgc ctatggcatg 900
40 gtctcgccct tcgcccgcgc cccagcgtc aacagtgaac tcaagtacat caaggccaag 960
41 gtccttcggg aaggccaggc ccgtgagagg gacaagtgca ccattccagt agcgagggat 1020
42 gctggggcgg ggcttgcca gtgccttcag ggaggcggcc ccagatgccc actgtgcgca 1080
43 tctccccacc gaggccccgg cagcagctct gttcacagac cttaggcacc agactggagg 1140
44 cccccgggcg ctggcctccg cacattcgtc tgcttctca cagcttctct gactcgcctt 1200
45 gtccacagct ccttggtggt ttcatctcct ctgtgggagg acacatctct gcagcctcaa 1260
46 gagttaggca gagactcaag ttacaccttc ctctcctggt gttggaagaa atgttgatgc 1320
47 cagaggggtg aggtattgct cgtcatatgg agcctcctgg gacaagcctc aggatgaaaa 1380
48 ggacacagaa ggccagatga gaaaggtctc ctctctcctg gcataacacc cagcttggtt 1440
49 tgggtggcag ctgggagaac ttcttccca gccctgcaac tcttacgctc tgggttcagct 1500
50 gcctctgcac cccctccac cccagcaca cacacaagtt ggcccccagc tgcgcctgac 1560
51 attgagccag tggactctgt gtctgaaggg ggcggtggcca cacctcctag accacgcccc 1620
52 ccacttagac cagccccacc tcctgaccgc gttcctcagc ctctctcctc aggtccctcc 1680
53 gcccgacagt tgtgctttgt tgtggttgca gctgttttcg tgtcatgtat agtagtagaa 1740
  
```

## RAW SEQUENCE LISTING

DATE: 12/15/2004

PATENT APPLICATION: US/09/778,963B

TIME: 16:04:09

Input Set : A:\2ND\_SUBST\_SEQLIST\_NOV04.TXT

Output Set: N:\CRF4\12152004\I778963B.raw

```

54 atggaaatca ttgtactgta aaagcctagt gactccctcc ttggccaggc cctcaccag 1800
55 ttcagatcca cggcctccac ccgggacgcc ttctctctct gctcccaaac agggtttccg 1860
56 tggcctgttt gcagctagac attgacctcc gccattgagc tccacggttt acagacaatt 1920
57 gcacaagcgt ggggtgggca ggccaggact gctttttttt aatgctccca ttccacagag 1980
58 gataccaccg agactcggag gggacacgat gagcaccagg cccacacctt gtcccctagc 2040
59 aaattcaggg tacagctcca cctagaacca ggctgccttc tactgtgctc gttcctcaag 2100
60 catttattaa gcacctactg ggtgctgggt tcactgtgtc ctaggaaacc aagagggtcc 2160
61 ccagtcctgg cctctgcccg cccctgctgc cccaccacct tctgcacaca cagcgggtggg 2220
62 gagggcggga ggagcagctg ggaccagaaa ctgagcctgg gagggatccg acagaaaagc 2280
63 tcaggggcggg tcttctcctt gtgcccggga ttgggctatg ctgggtacca ccatgtactc 2340
64 aggcattggtg ggttttgaac ccataaacca aaggcccttg tcactcagctc ttaacaagta 2400
65 tattttgtat ttaaatctct ctaaacatat tgaagtttta gggccctaag gaaccttagt 2460
66 gatcttctat tgggtctttc tgaggttcag agagggtaag taacttcctc caggtcacac 2520
67 agcaagtctg tgggtggcag aagcaagcta gcgctgggca ttcagtacat accacgatgt 2580
68 gctccctctc ttgatgcttg gccctggggg ccttcaggggc tttgggacat cttgtcctca 2640
69 accctctccc tagatcagtc tgtgagggtc cctgtagata ttgtgtacac catgcccctg 2700
70 tatatacaag tacacacaga tgtacacaca gatgtacaca tgctccagcc ccagctctgc 2760
71 atacctgcac ctgcacccca gccttgcccc ctgcctgcgt ctgtgctcaa agcagcagct 2820
72 ccaaccctgc ctctgtcccc ttccccaccc actgcctgag ccttctgagc agaccaggta 2880
73 ccttggtctgc accggtgtgt ggcccgctct caccagggca cagccccgcc accatggatc 2940
74 tccgtgtaca ctatcaataa aagtgggttt gttacaaaaa aaaaaaaaaa aaaaaaaaaa 3000
75 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3060
76 aaaaaaaaaa aaaaaaaaaa aa 3082

```

78 &lt;210&gt; SEQ ID NO: 2

79 &lt;211&gt; LENGTH: 266

80 &lt;212&gt; TYPE: PRT

81 &lt;213&gt; ORGANISM: Homo sapiens

83 &lt;400&gt; SEQUENCE: 2

```

84 Met Met Lys Thr Leu Ser Ser Gly Asn Cys Thr Leu Ser Val Pro Ala
85 1 5 10 15
86 Lys Asn Ser Tyr Arg Met Val Val Leu Gly Ala Ser Arg Val Gly Lys
87 20 25 30
88 Ser Ser Ile Val Ser Arg Phe Leu Asn Gly Arg Phe Glu Asp Gln Tyr
89 35 40 45
90 Thr Pro Thr Ile Glu Asp Phe His Arg Lys Val Tyr Asn Ile Arg Gly
91 50 55 60
92 Asp Met Tyr Gln Leu Asp Ile Leu Asp Thr Ser Gly Asn His Pro Phe
93 65 70 75 80
94 Pro Ala Met Arg Arg Leu Ser Ile Leu Thr Gly Asp Val Phe Ile Leu
95 85 90 95
96 Val Phe Ser Leu Asp Asn Arg Glu Ser Phe Asp Glu Val Lys Arg Leu
97 100 105 110
98 Gln Lys Gln Ile Leu Glu Val Lys Ser Cys Leu Lys Asn Lys Thr Lys
99 115 120 125
100 Glu Ala Ala Glu Leu Pro Met Val Ile Cys Gly Asn Lys Asn Asp His
101 130 135 140
102 Gly Glu Leu Cys Arg Gln Val Pro Thr Thr Glu Ala Glu Leu Leu Val
103 145 150 155 160
104 Ser Gly Asp Glu Asn Ser Ala Tyr Phe Glu Val Ser Ala Lys Lys Asn

```

## RAW SEQUENCE LISTING

DATE: 12/15/2004

PATENT APPLICATION: US/09/778,963B

TIME: 16:04:09

Input Set : A:\2ND\_SUBST\_SEQLIST\_NOV04.TXT

Output Set: N:\CRF4\12152004\I778963B.raw

```

105          165          170          175
106 Thr Asn Val Asp Glu Met Phe Tyr Val Leu Phe Ser Met Ala Lys Leu
107          180          185          190
108 Pro His Glu Met Ser Pro Ala Leu His Arg Lys Ile Ser Val Gln Tyr
109          195          200          205
110 Gly Asp Ala Phe His Pro Arg Pro Phe Cys Met Arg Arg Val Lys Glu
111          210          215          220
112 Met Asp Ala Tyr Gly Met Val Ser Pro Phe Ala Arg Arg Pro Ser Val
113 225          230          235          240
114 Asn Ser Asp Leu Lys Tyr Ile Lys Ala Lys Val Leu Arg Glu Gly Gln
115          245          250          255
116 Ala Arg Glu Arg Asp Lys Cys Thr Ile Gln
117          260          265
120 <210> SEQ ID NO: 3
121 <211> LENGTH: 11221
122 <212> TYPE: DNA
123 <213> ORGANISM: Homo sapiens
125 <400> SEQUENCE: 3
126 ctctctgact ctttgccctc tctctgactc cctgacctct ctctctgtct cctgacctcc 60
127 tctgtctgac tccctgacct cctctctctgt ctactgacct cctctctctg actctctgcc 120
128 tccctctctet gactccctgc ctctctctctc tgattccctg cctctttgac cctctgacct 180
129 ctctctttga ctccctgacct cctctctccg attctctgctg tctttgactc cctgacctct 240
130 ctctctgact cctgaagct cattcagtc ttgctatcaa ctgctctgta ccaagctcta 300
131 ggctggaggg tgggcagggc aatgatggag acaaatactg tccctgggag cttctggccc 360
132 ctttcccatc ctgttttagac agaagtgacc gccagcagag tcaagctgtc tgcagaagga 420
133 cttggggagg gggctgtcat ggggtagggc ttctttcccc ccactctctg tgaaggccca 480
134 ggctggctga gacagccccg gcagagactg agaagggtc cctgctgtgg tctggcagcc 540
135 cctctctccac cctctctctc ctcatctctt gcctcccaca cgtatgccct gggcacctca 600
136 tcagggtctg cctaggggag ggccctcctt ggcacagccc ctggggcagt cagggtggtg 660
137 aggctgagga gagaaggtcc cagagtgggg cttcaggcaa acccaaagac agagcccttt 720
138 gccatttgat gaatgcacag accctttatt gagccctgc tctgttcatt gcatggcagt 780
139 tttgtgggat aaattcaaag acagcttttag gtgggagctg ggtgggggat gtgggggtct 840
140 taggcttgaa ctactacca gcctcctttg ttaaccaagt agctagtcac gtagccttct 900
141 gagctcgggg cagaccacct gggatcaaac ctctcctctg ctggttactg gctgtgcaac 960
142 tgtaagcaag taatttaacc tctctgtgcc tcagtttctt catctgtaaa ttggagaata 1020
143 acaccacctg ctttctgggg ttatgaagg agaaataggt taacatgtgt gcagcactta 1080
144 gaacactctg gcatatttta gctgcaaaat gaatgccagc tatgattatt tctatactta 1140
145 gtgcggggct tggcacactg catgggctca agtggcagca gttgtcgtcc ttgtggctcc 1200
146 aggcctgggg tccgccgtgt gctgagctgg cttattgtgc acgtcccttt gtgattcatt 1260
147 catcgaagtc acattagtag cttagaagtg accgtagtgg gagcatttac gccatggaaa 1320
148 ttggcaatag ggcttttaac aaaggatttt ttgagagccg gtttcctgca cagaggctgg 1380
149 tagttgggca gggtgagcag atccagatgt gtgccaggga ctgcacgca ggcaatctct 1440
150 ccacctccag tggccatctc agaccttagc ttcatgatag ccaggaaagc atgggtgtgg 1500
151 aaagcgccct gggccaatgg gcgaggcact caaggaaacc gacttggggc atcctggggg 1560
152 ggggaccgag tttgggcaca tacagccctt tgtgtgaatt taaaaacagt gccttttctt 1620
153 ctacacaaga tgccctttcg tctgggatac agccccacc tctgggatgc agccccact 1680
154 tgccacacca gccatgcgcc ttgtgcagta tccaacctgc acaacctgtg gcagcctgtg 1740
155 gaagaccgag gggattgata tttcagcagg cctgtgcccc tttgcagttc aggggctgga 1800
156 aagctctcct ctggagaggg gagggattcc tgcaagggtg aggagatcag agaggccttc 1860

```

## RAW SEQUENCE LISTING

DATE: 12/15/2004

PATENT APPLICATION: US/09/778,963B

TIME: 16:04:09

Input Set : A:\2ND\_SUBST\_SEQLIST\_NOV04.TXT

Output Set: N:\CRF4\12152004\I778963B.raw

```

157 agagagcagg tggcacttga gccagaccct gaaacataag ggggaagaggg tgttctgcag 1920
158 aggggtggca tgagcaaagg agtggaggct gatctcagca gagctcaaac tgacgagggt 1980
159 gactggggtc aggggttctg gggcggggat tctggtgggc gctaaggtag gaaaggaggg 2040
160 agggctgggc tgtgaagagc ctttggggtg agcctggtgg agcctgcggg tttgcttata 2100
161 caagagcttg gatccatgtc ggcctctttc atgagggtcaa gaggtcccca tagaaagctc 2160
162 tgagtttgcc ccagaacatc aacccttggg gatgggaggg aagcttgagc cagccatggg 2220
163 tcgttcccca ttccacatcc tctactccgg gcctctgggt ctccctggagg caagtaaaca 2280
164 cctagggcct gggaggcaaa aatatccggg cagggtcatgg agcggaggga gcccgcgaga 2340
165 tgcagagcac aggtctaaag gtgggtcctc ctgagggtggc tgcaggagca accccaggca 2400
166 ttgggcttgg agcatgcggg gtggacatag ccttcccttc ttcccaggag ggctgaatgg 2460
167 ccacagaacc acccctgcc ccaggcttaa gaaatgcag ctagtgcctt ccccatgtct 2520
168 tatcctagaa tcacaggctc cgggaaagcc agatggatga accagggaaa gaacggattc 2580
169 tcaccataga taccattttt gagatttcac catgtgctga gccctttgca acaactctat 2640
170 gaattgggct cattttgcag atgagaaaag tgacttctag agagggttaag ctactagccc 2700
171 aagatcagta ctagaggcca aggcaggatg tcaaatccca ggagtccggg gcttgcataa 2760
172 atgaaaggat gaatgaacgg atattgagtg agtgagtggg tgaaggaagg agtaaaggag 2820
173 agggcatgaa tgaatgagag ggtagaactc caagaccctc tagaacctcg tctgatgttc 2880
174 ccattttaca gacagaaaac tgagtcctag acagaggcct agaggaggcc aagagggtgg 2940
175 ggggccaggg cggggggggc ctgatgcctg cttctctcgc tttgttgag ccccgagcca 3000
176 tgatgaagac tttgtccagc gggaactgca cgctcagtg gcccgcctaa aactcatacc 3060
177 gcatggtggg gctgggtgcc tctcgggtgg gcaagagctc catcgtgtct cgcttcctca 3120
178 atggccgctt tgaggaccag tacacacca ccatcgagga ctccaccgt aaggtataca 3180
179 acatccgagg cgacatgtac cagctcgaca tctgggatac ctctggcaac caccctctcc 3240
180 ccgccatgcg caggctgtcc atcctcacag gtgaggccca ctggtgcctg ggctggggcg 3300
181 gcaggggccg ggcaggggtg cggagtgtgc tgggcacttg gcagtttgca tagacttgca 3360
182 tagccatcgt ctgagacagg cgtcatccct gcacaatgag gctcagagag gttttgccat 3420
183 gtgctggaaa tagtgatgaa gtcggggggc ccgattccat tctgttagac tccagatcga 3480
184 ttactcatgg ctgtcggggc cgccttcagc atcaggagct gataccagca tgccccagg 3540
185 atattccttt ctagggaaca gaatgatgcc ctggctgctg ctttctctct ccggaagatg 3600
186 acccaccaga gctccagggc ccaaggtcag tccacggggc tcagggtctc cacaccacc 3660
187 gcctttgcca cctcctagag aggtaaagggc aggaccagg cagtgatcac caaagggaag 3720
188 ggggcttggg catggtcata gtgatggtga tggcactagc tgacacttat cagaagctat 3780
189 gggcctggcc ctgttcttag agcttggcat gtagtttttt ttgaaacaga gtctcgctct 3840
190 gtcaccagg ctggagtgcg gtggcgcat ctcggtcac tgcaacctct gcctccggg 3900
191 ttcaagcgat tctcctgct cagtcccca agtagctggg actacaggca cgtgccacca 3960
192 tgcccggtta attttttgta tttttactag agacgggatt tcaccatgtt agccaggatg 4020
193 gtctcgatct cctgacctcg tgatctgcct acctcagcct cccaaagtgc tgagattaca 4080
194 ggcgtcagcc acccgggcca gccagcatgt agttatttaa cctcacagt aaatagttat 4140
195 tcattccctt ttacagggtg gggaaactga agcccagaga ggttaagtaa ctactccag 4200
196 tggtagcaca gctcgtaaag gcagtcgctc tttgtgcttt cagacaaagc cataccacag 4260
197 cctctcagcc ctgctgggaa gggtaggag ggacaggag gttgggggga agaagggtg 4320
198 agtggagctg aggggctgtg ccctgttcta cactgcatta gcattgtagc taagaggaca 4380
199 agcccgggac ccagcacctg ggtgtgagcc ctggttcgcg tgcttctgg ctttgtacct 4440
200 cgaggcaagg gattttatct cctgtgtctc cagcactctc atctgtaaga ctgcaccaca 4500
201 tcaacactca tcctaaaggg actgtgagac ttaaatgaat gaatatatgt aaggcgcttg 4560
202 gtgagcagat agtaaagtca caataaatcc ccaagtcttc tgttgagtca gcatttgcaa 4620
203 gtgggcctgc tacgggttac acgatcattt cccaagtcac gcccctgaag ttgctgagca 4680
204 gggataaggg aaggagttag caggcaactc tctaggcatc attcagataa cccccaact 4740
205 gaggtacttc tatacagaga aacctatgcc actcccagcc ctgctgccgc cttgaggcca 4800

```

## RAW SEQUENCE LISTING

DATE: 12/15/2004

PATENT APPLICATION: US/09/778,963B

TIME: 16:04:09

Input Set : A:\2ND\_SUBST\_SEQLIST\_NOV04.TXT

Output Set: N:\CRF4\12152004\I778963B.raw

```

206 agactgagggc tgcgggggtgg cccctccttg agtgctttct cttccaggct ggcttttccg 4860
207 agcatctgac ccagacagca gtcaagttct ccgctccacc ccgagttttg gagaaggggc 4920
208 atgtagatag gagagccctg ggtcgacctg tgttcgaatc cttgctgggc ctcttggtt 4980
209 aaatgtgtga ccagaggcac atgcatcctg tctgagtctc agcctcccca gccacacagt 5040
210 gggcttaacc tcataccccg cagggaggct gtgaggactg caagaaggct tgtggcggga 5100
211 gcttcagca cgtgacgggt attgcattgg tgtcagctcc cccagccttg gggaggggac 5160
212 tgggtacccg ctgcaatgaa taaggctaata gacagagggga aggagagggg agatgtagag 5220
213 aggaagcaca tgcataat ttcagtgac acaagtaata cccaaacaca 5280
214 cccctcctgca aacgctacag ataaagctaa tgcccccttg acccatgtcc ccaatcccag 5340
215 gctcctgccc ctgccccgga ggtggccacc ctggcagctc ggcatggagc cttccgggac 5400
216 tccgtgacta caccggcatt cgtatttcta tccccacaat ggagagtatt tttgtctgtc 5460
217 tcttttttat ggcgcataac attctgagca cagctgtctg atgcttgttt ttttttcaca 5520
218 caccaaccg tgcctcattt tccaacctgg tggaaacctca ttttttcaac ctcattttcc 5580
219 tctgtctcag gaaattctga aagccattaa tccactgcc agctcttctt ccagctgcc 5640
220 gacgggcccga tctctgatgc ttggcatcgc agtctcgcat ttgaatatgt caaggccacg 5700
221 agtctcagg ggccccggat tagcctaacg ggatggggtt tggcagccca agcaggaaga 5760
222 gttgccaagc tgacgtgcc tcgcaagtgc ctttcagaag agccacact gcagttccct 5820
223 ccatcacctc ccatccattc aggttctctt ggttaacact gactgtgtgc caggcccttg 5880
224 ggagaccagg acgagtgggt gatggaacct ttctctgtgc ccgagctgtt tggagcacac 5940
225 ctttgatctg gacaccattc tgaatgtgcc atgtgccatt aaatgggggt aaatgatgtg 6000
226 ctctgggggt gcagaggaag gtggcagcca ttctgccaga agctggaact ggttgcttct 6060
227 cttctcaaga atttgggcca attgctgatt cctctgggccc tcagtttccct catctgtgag 6120
228 acagggatct tgtcacacca caaggctatc aagagtttga gcaaaagtgg ttggacgcag 6180
229 tggctcatgc ctgtaatccc agctcttttg gaggccgagg tgggcagatc tcttgaggtc 6240
230 aggagttcaa gaccagcctg gctaacacag tgaacacccg tctctactaa aaaatacaaa 6300
231 aaattagcca ggtgtggtga tgggcacctg taatcccagt tactcgggag gctgaggcag 6360
232 gagaatctct tgaacccagg aggtggaggt tgcagtgagc tgagatcttg ccattgcatt 6420
233 ccaggtctgg caacaagagt gaaactctgt ctcagaaaat aaataaataa ataaataaaa 6480
234 aatagctagg catcgtgaca ggcgcctgta atcccagctg ctccagaggc tgaggcagga 6540
235 gaatcgctta aaccaggag gtggaagtgt cagtgagcca agatcacacc actgcactcc 6600
236 agcctgggccc acagagaaaag actccatctc aaaaaaaaaa aaaaaaaaaa aaaaagtta 6660
237 agcaaaagtg aggaaggtgc ttattaaaag ctggaatatca ggatggaggt accagtccag 6720
238 acagcctccc caccacccca ccgtctccac agcagccctt gtttcagatt cacaagcctg 6780
239 ccttgagtga tgcagtgagt tatcctggag gcagtgtggg ccttggaggc cagcactcac 6840
240 tttttcatcc tatgatttat ttgagaagca gagagcacct accgggtgcc aggaacgagc 6900
241 taggtgagaa cagaatcagg tagaaatctc agcctagcca cacggaagct gtgtgatctt 6960
242 gggcaggctg catacccttt ctgagcctca gtttgctcac ctgtaatgca aaggtaacaa 7020
243 aatcttgaca gaggcatagt gaggaatcaa gagaacaacg ggcctggagc atacaccag 7080
244 tgettagccc ccagtaggcc ctactctca tcattactga cacctgaggt cactgagcat 7140
245 gtgccactgt ccattcatta tcttgcataa ctcccaaat catcctgcaa ggtaatat 7200
246 catcttcag aaacagacag agaaactgag gttacagagg tttcgtgatc tgcccaagtc 7260
247 tgcaggcagc taagcggatg aggcagatg caaactaggc attgagcaag acaggcagga 7320
248 cccctgctct catagaaatg atttttatta ttacttgaac acagtccaca caagtgcct 7380
249 accctctccc agcctgcaa agaaatgtga agtgagttaa ctgtatttga accaagtgg 7440
250 ccacgtgtta gctatgcgac tgtgaacagg ggcttcaacc cctcagcct cagtttctctg 7500
251 tcttgaaaaa taatcgagg gagaataatc gcagctaccc cgaagagtcg ctgtgtaggt 7560
252 taaagcagtt atgcgcata actgcttcag ggcacctgtg actcccagct cttagggctg 7620
253 atgttctgtg gccagaggag ggcaggggtt gcagctggcc ggtgaactca ctacctgggc 7680
254 tctctccctg caggggatgt cttcatcctg gtgttcagcc tggataaccg ggagtccttc 7740

```

RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 12/15/2004  
PATENT APPLICATION:    US/09/778,963B      TIME: 16:04:10

Input Set : A:\2ND\_SUBST\_SEQLIST\_NOV04.TXT  
Output Set: N:\CRF4\12152004\I778963B.raw

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:6; Xaa Pos. 2,3,4,5  
Seq#:8; Xaa Pos. 3  
Seq#:9; Xaa Pos. 2,5

**VERIFICATION SUMMARY**

DATE: 12/15/2004

PATENT APPLICATION: US/09/778,963B

TIME: 16:04:10

Input Set : A:\2ND\_SUBST\_SEQLIST\_NOV04.TXT

Output Set: N:\CRF4\12152004\I778963B.raw

L:410 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0

L:435 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0

L:450 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0